

REMARKS/ARGUMENTS

Claims 1-5, 7-14, 16-23 and 25-31 are currently pending in this application.

The Present Invention

The present invention is related to a method and apparatus, (e.g., a communication system, a wireless transmit/receive unit (WTRU), an integrated circuit (IC), or the like), which is used to continuously counteract the effects of phase offsets introduced into a communication signal by an automatic gain control (AGC) circuit.

Referring to Figure 1 of the instant application, the apparatus 100 includes an AGC circuit 105 which receives and adjusts the gain of a communication signal 150. The AGC circuit 105 is controlled by a gain control signal 145. The apparatus 100 further includes an insertion phase variation compensation module 120 which continuously counteracts the effects of phase offsets introduced into the communication signal by the AGC circuit 105, based on the gain control signal 145. The apparatus 100 further includes a look up table (LUT) 155 which is electrically coupled to the insertion phase variation compensation module 120. Additionally, the apparatus 100 includes a modem 125 electrically coupled to the AGC circuit 105 and the LUT 155, wherein the modem 125 receives complex in-phase (I) and quadrature (Q) signal components from the insertion phase variation compensation module 120. The modem 125 outputs the gain control signal 145 based on the complex I and Q signal components. The modem 125 outputs the gain control signal 145 to the AGC circuit 105 and the LUT 155. The LUT 155 provides estimates of the phase offsets to the insertion phase variation compensation module 120 as a function of the gain control signal 145 that the LUT 155 receives from the modem 125.

Claim Rejections

Claims 1-5, 10-14 and 28 are rejected under 35 U.S.C 102(e) as being anticipated by U.S. Patent No. 6,721,370 (Kurihara). Claims 19-23 are rejected under 35 U.S.C 103(a) as being unpatentable over Kurihara. Claims 7-9, 16-18, 25-27 and 29-31 are rejected under 35 U.S.C 103(a) as being unpatentable over Kurihara in view of U.S. Patent No. 5,933,112 (Hiramatsu et al.). Claims 7-9, 16-18, 25-27 and 29-31 are rejected under 35 U.S.C 103(a) as being unpatentable over Kurihara in view of U.S. Patent No. 6,340,883 (Nara et al.). The Examiner is respectfully advised that the Patent No. indicated for Nara et al. in the June 8, 2007 Office Action is incorrect.

Kurihara discloses a radio communication apparatus shown in Figure 3 that includes a receive path (41/11/12/13/42/14/43/31/32) and a transmit path (33/31/53/24/52/23/22/21/51). Kurihara also discloses an automatic gain control circuit (AGC) 11/15 that only controls amplification and phase correction of received signals introduced into the receive path (41/11/12/13/42/14/43/31/32) that are processed and audibly emitted by a speaker 32, and a baseband processor 31 that only controls amplification and phase correction of signals produced by a microphone 33 that are processed and transmitted via the transmit path (33/31/53/24/52/23/22/21/51). Kurihara discloses a baseband processor 31 that provides a timing signal 44 to the AGC 11/15, and provides a gain signal 55 to an amplifier 21 for controlling the gain of signal that have already been phase compensated by a phase correction unit 24.

Claims 1, 10, 19 and 28 are directed to a communication system and method of using a modem that outputs a gain control signal to an AGC circuit that introduces phase offsets into a communication signal that are compensated by a phase variation compensation module. The Examiner asserts that the baseband

processor 31 of Figure 3 of Kurihara is a modem that outputs a gain control signal to a look up table (LUT) 2a of Figure 1A. Kurihara discloses that the baseband processor 31 outputs a gain signal 55 to a phase correction unit 24 that, as shown in Figure 1, may include a table 2a used for phase correction. However, the Applicants respectfully submit that the Examiner has failed to address and consider all of the claim limitations because Kurihara's gain signal 55 is not used to control an AGC circuit that introduces phase offsets into a communication signal that are compensated for by an insertion phase variation compensation module. Instead, Kurihara discloses a phase correction unit 24 that corrects the phase of a transmission signal 53 that originates from a microphone 33 prior to being amplified by an amplifier 21 (see col. 4, lines 38-48). Thus, the transmission signal 53 does not include phase offsets introduced by an AGC circuit

The Applicants submit that the prior art of record fails to teach or suggest, alone or in combination, all of the features recited in amended claims 1, 10, 19 and 28. Furthermore, claims 2-5, 7-9, 11-14, 16-18, 20-23, 25-27 and 29-31 are dependent upon claims 1, 10, 19 and 28, respectively, and are also believed to be patentable over the prior art of record for the reasons presented above.

Based on the arguments presented above, the withdrawal of the rejections of the pending claims under 35 U.S.C 102(e) and 35 U.S.C. 103(a) is respectfully requested.

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Application No.: 10/736,432

Conclusion

If the Examiner believes that any additional minor formal matters need to be addressed in order to place this application in condition for allowance, or that a telephone interview will help to materially advance the prosecution of this application, the Examiner is invited to contact the undersigned by telephone at the Examiner's convenience.

In view of the foregoing Amendment and remarks, the Applicant respectfully submits that the present application, including claims 1-5, 7-14, 16-23 and 25-31, is in condition for allowance and a notice to that effect is respectfully requested.

Respectfully submitted,

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